	Application No.	Applicant(s)
Notice of Allowability	10/828,692	NEGISHI ET AL.
	Examiner	Art Unit	
	Michael Y. Won	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *application filed April 21, 2004 and interview conducted on September 27, 2007*.

2. ☒ The allowed claim(s) is/are *1, 3-8, 10-15, and 17-20 (renumbered 1-17)* .

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a) ☒ All   b) ☐ Some*   c) ☐ None of the:

  1. ☒ Certified copies of the priority documents have been received.

  2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

  * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

  (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

    1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

  (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
    Paper No./Mail Date _____.

  Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO/SB/08),
  Paper No./Mail Date 9/20/07

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413),
  Paper No./Mail Date *attached* .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____.

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

2.   Authorization for this examiner's amendment was given in a telephone interview

with James E. Boice on September 27, 2007.

3.   The application has been amended as follows:

1. **(Currently Amended)** A front-end server comprising:

a cache memory for holding at least one operation request directed from a client

device to a NAS (Network Attached Storage) server, the client device and the NAS

server being coupled via the front-end server;

a client operation processing unit for receiving said at least one operation request

from the client device, the client operation processing unit also being capable of

performing an operation based on said at least one operation request by using cache

data stored in the cache memory; and

a data change reflection processing unit for creating at least one operation

sequence, the created at least one operation sequence being a result of an operation

performed by the client operation processing unit in response to the received at least

one operation request from the client device, the data change reflection processing unit

also being capable of transmitting the created at least one operation sequence to the

NAS server;

wherein, in response to a determination that multiple operation requests from the

client device are compatible for merging, the client operation processing unit

synthesizes a plurality of the operation requests received from the client device into one

combined operation request, and the client operation processing unit executes the

combined operation request using the cache data in the front-end server to create the

created at least one operation sequence.

2. **(Currently Cancelled)**

3. **(Currently Amended)** The front-end server of ~~claim 2~~ claim 1, wherein the

created at least one operation sequence sent to the NAS server is a directive to directly

change data stored in the NAS server, the directive based on results of the client

operation processing unit executing the combined operation request using data in the

cache memory in the front-end server.

8. **(Currently Amended)** A network system comprising:

a client device;

a Network Attached Storage (NAS) server, and

a front-end server coupling the client device and the NAS server, the front-end

server comprising:

a cache memory for holding at least one operation request directed from

the client device to the NAS (Network Attached Storage) server;

a client operation processing unit for receiving said at least one operation

request from the client device, the client operation processing unit also being

capable of performing an operation based on said at least one operation request

by using cache data stored in the cache memory; and

a data change reflection processing unit for creating at least one operation

sequence, the created at least one operation sequence being a result of an

operation performed by the client operation processing unit in response to the

received at least one operation request from the client device, the data change

reflection processing unit also being capable of transmitting the created at least

one operation sequence to the NAS server,

wherein, in response to a determination that multiple operation requests from the

client device are compatible for merging, the client operation processing unit

synthesizes a plurality of the operation requests received from the client device into one

combined operation request, and the client operation processing unit executes the

combined operation request using the cache data in the front-end server to create the

created at least one operation sequence.

9. **(Currently Cancelled)**

10. **(Currently Amended)** The network system of ~~claim 9~~ claim 8, wherein the

created at least one operation sequence sent to the NAS server is a directive to directly

change data stored in the NAS server, the directive based on results of the client

operation processing unit executing the combined operation request using data in the

cache memory in the front-end server.

15. **(Currently Amended)** A method comprising:

holding, in a cache memory in a front-end server, at least one operation request

directed from a client device to a NAS (Network Attached Storage) server, the client

device and the NAS server being coupled via the front-end server;

receiving, at a client operation processing unit in the front-end server, said at

least one operation request from the client device;

performing, in the client operation processing unit, an operation based on said at

least one operation request by using cache data stored in the cache memory;

creating, in a data change reflection processing unit in the front-end server, at

least one operation sequence, the created at least one operation sequence being a

result of an operation performed by the client operation processing unit in response to

the received at least one operation request from the client device; and

transmitting, by the data change reflection processing unit, the created at least

one operation sequence to the NAS server;

wherein, in response to a determination that multiple operation requests from the

client device are compatible for merging, the client operation processing unit

synthesizes a plurality of the operation requests received from the client device into one

combined operation request, and the client operation processing unit executes the

combined operation request using the cache data in the front-end server to create the

created at least one operation sequence.

16. **(Currently Cancelled)**

17. **(Currently Amended)** The method of ~~claim 16~~ claim 15, wherein the created

at least one operation sequence sent to the NAS server is a directive to directly change

data stored in the NAS server, the directive based on results of the client operation

processing unit executing the combined operation request using data in the cache

memory in the front-end server.

Allowable Subject Matter

4.   Claims 1, 3-8, 10-15, and 17-20 are allowable over prior art of record in light of

the Examiner's Amendment above.

5.   The following is an examiner's statement of reasons for allowance:

The prior art of record does not disclose, teach, or suggest neither singly nor in

combination the claimed limitation of "the client operation processing unit executes the

combined operation request using the cache data in the front-end server to create the

created at least one operation sequence" as recited in independent claims 1, 8, and 15.

6.   Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Michael Y. Won whose telephone number is 571-272-

3993. The examiner can normally be reached on M-Th: 7AM-5PM.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Won/

Primary Examiner

October 2, 2007